

State of Montana Alternative CO Monitoring Strategy Billings and Great Falls CO Maintenance Areas

Alternative CO Monitoring Method

Montana proposes revisions to the existing carbon monoxide (CO) Limited Maintenance Plans (LMPs) to adopt alternative CO monitoring methods which do not utilize a traditional gaseous analyzer for determining compliance with the National Ambient Air Quality Standards (NAAQS) for CO in the CO maintenance areas of Billings and Great Falls. As discussed in the Billings and Great Falls LMPs (submitted to EPA 7/13/2011), these areas have monitored consistently low levels of CO for over a decade. Most notably, none of these areas registered a design value (2nd max concentration) greater than 33% of the current CO NAAQS from 2006 to 2009. For this reason, and because there are no foreseen changes that would increase these monitor values, the Department believes use of an alternative methodology other than gaseous monitoring would be appropriate to monitor maintenance of the CO NAAQS for these areas. Montana also believes such a method would not compromise data collection for the NAAQS and will continue to meet the requirements of 40 CFR Part 58, Appendix D.

The alternative CO monitoring method will include an annual review of the traffic volumes in each of the CO maintenance areas using the data from the Montana Department of Transportation (MDT) permanent automatic traffic recorders (ATR) in Billings and Great Falls.

The Montana Department of Environmental Quality (Department) will compare the latest rolling 3-year monthly average of the average daily traffic (ADT) volumes during the traditional high CO concentration season of November through February against the baseline ADT average for those months established by the ATR data collected during 2008-2010.

Contingency Plan

If the ADT in a CO maintenance area increases by greater than 25% when comparing the most recent, consecutive rolling 3-year period to the baseline 2008-2010 period, then the Department will reinstitute, for that maintenance area, gaseous monitoring at the 2008-2010 monitoring location or at a site expected to read greater CO than that site. The monitoring will be conducted the following winter during the November to February period and the results evaluated to determine if the levels of CO emissions in the area appear to be rising commensurate with the increase in ADT. If the monitored 2nd maximum value for the November to February period has not increased from the baseline mean by an equal or greater rate at which ADT has increased, and the monitor values remain at or below 50% of the CO NAAQS (2nd max concentration ≤ 4.5 ppm currently), the monitor may again be removed and the ADT counts resumed. This process will be repeated each time the ADT increases by a factor of 25% (e.g. 50%, 75%) above the baseline 2008-2010 period, and the same analysis will be conducted to determine if the monitors can again be removed.

If the percent increase is not greater than 25%, then the ambient CO concentrations will be presumed to have remained relatively unchanged.

Annual ADT comparison Analysis

The baseline traffic volume levels for Billings and Great Falls were established using the following data sets:

Month-Year	Billings (#A-050)	Great Falls (#A-033)
January 2008	32,778	34,123
Februarv 2008	35463	36855
November 2008	35,832	35675
December 2008	32042	33,584
January 2009	33,256	33820
Februarv 2009	35695	36102
November 2009	37,121	37110
December 2009	33,905	34,742
January 2010	32,340	34,371
Februarv 2010	34317	36,576
November 2010	33885	34,164
December 2010	34,317	34,691
Average	34,246	35,151

The baseline traffic volumes for the 2008 to 2010 time period, by community, are as follows:

- Billings 34,246
- Great Falls 35,151

For example, in early 2012, using the ATR data from 2011, new rolling averages will be calculated for the 2009 to 2011 time period for each community. That new rolling average for 2009-2011 will be compared to the baseline 2008-2010 average for each community. The ADT data review process will be repeated each year during the annual monitoring review and the new rolling 3-year average will be compared to the baseline average from 2008-2010.